

Listing of the Claims:

Claims 1-4 (Canceled).

Claim 5 (Original): A method of manufacturing a semiconductor memory device, comprising the steps of:

- a) forming gate electrodes on a substrate having a cell region and a periphery region;
- b) forming a first insulating layer over the substrate, the first insulating layer covering the gate electrodes;
- c) forming first metal contact holes and stud holes in the first insulating layer;
- d) forming metal contact studs and first metal contact portions in the stud holes and the first metal contact holes, respectively;
- e) forming a second insulating layer on the first insulating layer and on the metal contact studs;
- f) forming bit line contact holes passing through the first and second insulating layers;
- g) forming bit line contacts in the bit line contact holes; and
- h) forming bit lines on the second insulating layer.

Claim 6 (Original): The method of claim 5, further comprising the steps of:

- i) forming a capacitor over the cell region of the substrate;

j) forming a third insulating layer over the substrate, said third insulating layer covering the bit lines;

k) forming second metal contact holes in the second and third insulating layers, the second metal contact holes exposing a portion of the metal contact studs; and

l) forming second metal contacts in the second metal contact holes.

Claim 7 (Original): The method of claim 5, wherein the step of forming the stud holes further comprises the steps of:

forming a first photoresist pattern on the first insulating layer; and

etching the stud holes in the first insulating layer using the first photoresist pattern as a mask, wherein after the stud holes are formed, the first photoresist pattern is removed.

Claim 8 (Original): The method of claim 5, wherein the first metal contact holes are formed using anisotropic etching processing to expose a portion of an active area and at least one of said gate electrodes.

Claim 9 (Original): The method of claim 5, wherein the step of (d) further comprises the steps of:

depositing a first conductive material layer on the first insulating layer, wherein said first conductive material layer fills the stud holes and the first metal contact holes; and

removing a portion of the first conductive material layer to form the metal contact studs and the first metal contact portions.

Claim 10 (Original): The method of claim 5, wherein the step of (e) further comprises the step of planarizing the second insulating layer using a chemical mechanical polishing (CMP) technique.

Claim 11 (Original): The method of claim 5, wherein the step of (f) further comprises the steps of:

forming a second photoresist pattern on the second insulating layer; and
etching the first and second insulating layers to form the bit line contact holes using the second photoresist pattern as a mask, wherein after the bit line contact holes are formed, the second photoresist pattern is removed.

Claim 12 (Original): The method of claim 5, wherein the step of (g) further comprises the steps of:

depositing a second conductive material layer on the second insulating layer, the second conductive material layer filling the bit line contact holes; and
removing a portion of the second conductive material layer on the second insulating layer.

Claim 13 (Original): The method of claim 5, wherein step (h) further comprises the steps of:

depositing a third conductive material layer on the second insulating layer, wherein the third conductive material layer contact the bit line contacts; and patterning the third conductive material layer to form the bit lines.

Claim 14 (Original): The method of claim 5, wherein an area of a lower portion of each metal contact stud is less than an area of an upper portion of each metal contact stud.

Claim 15 (Original): The method of claim 6, wherein step (k) further comprises the steps of:

forming third photoresist patterns on the third insulating layer; etching the third insulating layer and the second insulating layer using the third photoresist patterns as a mask to form the second metal contact holes, wherein each of the second metal contact holes pass through between adjacent bit lines and exposes a portion of the metal contact studs.

Claim 16 (Original): The method of claim 6, wherein step (l) further comprises the steps of:

depositing a fourth conductive material layer on the third insulating layer, the fourth conductive material layer filling the second metal contact holes; and

removing a portion of the fourth conductive material layer on the third insulating layer to form the second metal contacts.

Claim 17 (Original): The method of claim 12, wherein at least one of the bit line contacts is connected to active area of the substrate.

Claim 18 (Original): The method of claim 12, wherein at least one of the bit line contacts is connected to one of the gate electrodes.